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Mr. Richard C. Karl
Director, Superfund Division
Region 5
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604-3590

**Re: Kennecott Eagle Minerals Company's Comments on EPA CERCLA
Assessment of Humboldt Mill Site**

Dear Mr. Karl:

Kennecott Eagle Minerals Company ("Kennecott") submits these Comments on U.S. EPA's CERCLA preliminary assessment of certain property in Marquette County, Michigan that includes the Humboldt Mill (the "Mill Site"). Kennecott does not believe any further action by the EPA is necessary, essentially for two reasons.

First, Kennecott is rehabilitating and reusing the Mill Site under the auspices of a Covenant Not to Sue ("CNTS") issued under Michigan's Brownfield redevelopment program, as well as numerous permits closely regulating Kennecott's activities at the Mill Site. (The CNTS is provided as Attachment 1.) In doing so, Kennecott has voluntarily undertaken to remediate contamination at the Mill Site which was not caused by it and for which it is not otherwise responsible – a positive outcome for the environment.

Secondly, and including, as a result of Kennecott's management of the Mill Site, there are no conditions at the Mill Site presenting an imminent and substantial endangerment to human health or the environment. Accordingly, neither CERCLA nor EPA's Superfund Memorandum of Understanding with Michigan justify further action in terms of the site assessment process at the Mill Site.

In addition to these substantive points, Kennecott considers it necessary to notify EPA of its concerns about the December 2010 Preliminary Site Assessment Report ("PA") and the inspection EPA recently completed at the Mill Site and adjacent properties. Kennecott's review of the PA divulged important factual inaccuracies pertaining to current conditions at the Mill Site. If accurate information about these conditions is taken into account, it is difficult to support the PA's conclusion that a site inspection was warranted. In addition, the site inspection contractor did not adhere to standard sample collection protocols, raising the possibility that these sample results may not accurately reflect site conditions.

I. Historic Operations at Mill Site

Records indicate that iron mining, consisting of underground shaft mines, was conducted on and in the vicinity of the Mill Site by various entities during various time intervals from 1865 to 1920.¹ The Cleveland-Cliffs Iron Company developed the Mill Site and adjoining property in 1954 as an integrated mining and beneficiation operation. Cliffs initially mined underground and then went to an open pit operation. Cliffs staged overburden and lean rock from the mine in areas to the immediate north and south of the mine. Cliffs also constructed and operated a mill to concentrate ore from the mine. The mill

¹ Michigan Technological University, Johnson, A.M., and Groth, E.H., 1988.

discharged iron tails to three areas: the “North” and “South” tailings basins (located southeast of the mill) and a “West” basin (located southwest of the mill). (The lean ore and overburden storage areas, the mill, and the iron ore tailings basins are all depicted in Figure 1-2 to Kennecott’s CNTS.) These iron-mining operations ceased in 1979. The open pit mine then filled with water, creating the current Humboldt pit.

The Callahan Mining Company purchased the mill and Humboldt pit from Cliffs in approximately 1985. Callahan used the mill to process gold ore from a nearby mine. Callahan discharged tailings from this operation into the Humboldt pit. The Michigan Department of Natural Resources approved and regulated this use of the Humboldt pit as a subaqueous tailings disposal facility through issuance of NPDES Permit No. MI0044393 for the “Ropes Mill and Tailings Disposal Area”. These operations continued until approximately 1990.

Minerals Processing Corporation (“MPC”) acquired the mill facility from Callahan in 1995. (The Humboldt pit/tailings disposal facility (“HTDF”) was not included in this transaction.) MPC used a small portion of the mill building to process industrial minerals through dry grinding operations. Later, MPC used the building for equipment storage. Callahan continued to own the pit.

II. Kennecott Purchase and Redevelopment of the Mill Site

Kennecott Eagle Land, LLC, an affiliate of Kennecott, acquired the mill from MPC in September 2008. In addition, Kennecott recently purchased the Humboldt pit/subaqueous tailings disposal facility from Callahan to complete its acquisition of the major properties comprising the Mill Site.² These purchases are part of an 80 million dollar Kennecott investment to refurbish and reuse the Humboldt Mill Site to process ore from its Eagle Mine, approximately 18 miles north of the mill.

A. Response Activities Addressing Pre-Existing Conditions

The Michigan Department of Environmental Quality (“MDEQ”) supported this brownfield redevelopment project by issuing a CNTS to Kennecott under Part 201 of the Michigan Natural Resources and Environmental Protection Act (“NREPA”). (MCL 324.20101, *et seq.*) Under the terms of the CNTS (CNTS-RD-2011-001), Kennecott has agreed to voluntarily undertake substantial additional response actions to address impacts from past activities on the Mill Site going well beyond the “due care” measures needed to satisfy its liability exemptions under CERCLA and Part 201.³ More specifically, Kennecott has implemented the following due care and voluntary response activities at the Mill Site to address pre-existing conditions since taking ownership of the Mill Site in September 2008:

1. Decontamination and waste removal activities conducted to address conditions in and near the mill buildings, including:

- Abatement of asbestos-containing materials in the mill buildings.
- Characterization and proper disposal of numerous piles and open containers of former lab and process materials within the mill buildings.
- Removal and proper disposal of accumulated debris both within the mill buildings and around the perimeter of the buildings.

² The Mill Site comprises roughly 350 acres of land, and does not include the iron ore tailings disposal areas and other areas EPA included in its PA and site inspection. Specifically, according to the PA, it appears that EPA assessed an area comprising 1,242 acres. Thus, the scope of the EPA’s assessment extends well beyond Kennecott’s ownership and planned operations.

³ Both CERCLA and Part 201 provide for exemptions to liability for pre-existing releases of hazardous substances based on a party’s completing all appropriate inquiry into site conditions and complying with certain post-acquisition obligations. In the case of Part 201, a party must also document pre-existing contamination through completion and disclosure of a Baseline Environmental Assessment to the MDEQ. Kennecott has completed all of these steps in conjunction with its acquisition of the Mill Property and obtained liability exemptions under CERCLA and Part 201.

These activities resulted in off-site shipment and proper disposal of 21,000 pounds of non-hazardous waste, 765 pound of universal waste, 9,430 pounds of hazardous waste, and 44,500 gallons of wastewater from the Mill Site. (Importantly, these activities address materials erroneously identified and assumed to be current “sources” in Section 4.1 of the PA.)

2. Ongoing due care activities:

- Development and implementation of site-specific health and safety and residuals management plans for construction activities and other operations on the Mill Site.
- Fencing and securing significant portions of the property and providing continuous security to limit access to the Mill Site.
- Development and filing of required notices regarding abandoned containers present on the property and migration of contaminants from the property.
- Implementation of best management practices to mitigate soil erosion from the property and associated potential migration of contaminants.

3. Additional response activities being performed under the CNTS:

- Excavation and off-site disposal of approximately 10,000 to 15,000 tons of mining residuals and related impacted soils from designated areas of the Mill Site, including the former pyrite trench and stockpile areas.
- Sampling and analysis of groundwater near a former leaking UST system on the Mill Site to better define due care obligations that may attach to impacted groundwater in this area of the Mill Site.
- Proper abandonment of unused groundwater monitoring wells on the Humboldt Mill Site.

These additional activities also address materials identified as “sources” in Section 4.1 of the PA and, along with the mill clean out activities, substantially improve site conditions—improvements that would not have occurred on the dormant mill properties but for Kennecott’s redevelopment project.

B. Regulatory Framework and Permits Governing Kennecott Operations

In addition to addressing and improving conditions created by prior operators of the Mill Property, Kennecott’s prospective operations on the Humboldt Property have been closely reviewed by both MDEQ and EPA in conjunction with the application and issuance of several permits closely regulating virtually every aspect of Kennecott’s future operations on the Property. These permits not only assure that Kennecott’s future operations are conducted in a safe and environmentally sound manner, but also have the ancillary benefit of managing/mitigating exposures to pre-existing contamination and mining residuals left behind by others. The most significant regulatory and permitting requirements that are applicable to the Humboldt Mill Site are summarized as follows:

1. Michigan Non-Ferrous Metallic Mining Permit (Part 632 of NREPA)

Kennecott’s site redevelopment and beneficiation activities are regulated under the terms and conditions of a Non-Ferrous Metallic Mining permit (MP 012010) issued to Kennecott by the MDEQ pursuant to Part 632 of Act 451 (the “Part 632 permit”) on February 9, 2010. Placement of tailings in the HTDF and related construction activities will be regulated pursuant to the Part 632 permit and, in addition, Permit No. 08-52-0104-P (a permit issued under the authority of Part 301, Inland Lakes and Streams, and Part 303, Wetlands Protection, of the NREPA). These permits are discussed below.

Kennecott’s Part 632 permit requires Kennecott to undertake a variety of activities to assess environmental conditions and assure that its operation on the Mill Site is not detrimental to human health or the environment. In some cases, the Part 632 permit requires Kennecott to undertake projects to improve environmental conditions or otherwise reduce potential exposures to impacted

environmental media or mining residuals that predate Kennecott's ownership and operations on the property. More specifically, Kennecott's obligations under the Part 632 permit include the following:

- Development and implementation of comprehensive groundwater, surface water, flora and fauna monitoring programs to assess potential impacts during Kennecott's operations at the Mill Site and for a period of time after Kennecott ceases operations (i.e., post-closure monitoring).
- Construction and operation of the proposed beneficiation operations in a manner consistent with the Part 632 permit, including renovation and construction of new mill facilities and paving of significant portions of the Mill Site to prevent direct contact exposure to impacted soils.
- Construction of improvements to the HTDF prior to subaqueous placement of tailings, including construction of a wastewater treatment plant and subgrade groundwater flow barrier to prevent migration of impacted groundwater to the north from the HTDF property in unconsolidated sediments.
- Reclamation of the area subject to the Part 632 permit concurrent with and subsequent to milling operations on the property to establish a self-sustaining ecosystem, including: demolition of buildings; removal of rail lines, paved areas, culverts, potable water systems and sanitary sewage management systems; abandonment of monitoring wells; and grading/vegetation of the Mill Site.
- Posting of financial assurance with the State of Michigan to assure that Kennecott fulfills its obligations under the Part 632 permit.

2. Surface Water Quality (Part 31 of NREPA)

Surface water discharge of wastewater from beneficiation and related activities on the Mill Site as well as storm water runoff will be conducted in accordance with the requirements of National Pollutant Discharge Elimination System surface water discharge permit, Permit No. MI0058649 issued under the authority of Part 31 of NREPA. The terms of this permit require that discharge from the HTDF to wetlands adjoining the Escanaba River be monitored and that a wastewater treatment system be constructed on the property to treat this discharge, if necessary. (Kennecott will also install a 2,300 foot subsurface cut off wall to prevent flow of groundwater from the HTDF property to the adjacent wetlands. At present, natural discharge of water from the HTDF vents directly to wetlands to the north without monitoring or the potential for treatment). The permit also requires that that Kennecott develop and implement a storm water monitoring plan and implement controls for the Mill Site.

3. Inland Lakes and Streams and Wetlands Permit (Parts 30 and 303 of NREPA)

In addition to Part 632, operation of the HTDF and improvements to the HTDF implicate additional permits under Parts 301 and 303 of NREPA. Importantly, EPA reviewed the HTDF operation in conjunction with its review of Kennecott's Part 303 permit application. In a letter dated January 28, 2010 from Peter Swenson to Colleen O'Keefe at MDEQ, EPA concluded that the wetland impacts associated with Kennecott improvements to and operation of the HTDF were in compliance with the CWA Section 404 guidelines. (A copy of the letter is provided as Attachment 2.)

4. Air Quality (Part 55 of Act 451)

Finally, Kennecott's operations will include air emissions from ore handling and beneficiation operations on the Humboldt Mill Site. Air emissions from beneficiation activities will be in accordance with an air use permit, Permit to Install No. 405-08, and if required, a Renewable Operating Permit, both issued under the authority of Part 55 of NREPA.

As described above, the Mill Site is heavily regulated and under active management by Kennecott pursuant to a variety of environmental permits that provide for additional assessment/monitoring, corrective action/reclamation, financial assurance, and other requirements that collectively: (i) minimize the potential for future releases at the Mill Site, (ii) minimize and/or eliminate the risk of exposure to past releases; and (iii) further minimize any risks off-site migration of past releases. Within this context, it is hard to discern the CERCLA policy goals advanced by treating the Mill Site as if it were an uncontrolled source of significant ongoing releases.

III. EPA Decision to Perform Preliminary Site Assessment

The EPA's decision to proceed with the site assessment process is inconsistent with Addendum I to the Superfund Memorandum of Understanding ("MOU") between MDEQ and U.S. EPA Region 5, as well as Sections 105(h) and 128(b) of CERCLA. The MOU and statutory provisions establish the CERCLA policy of avoiding federal CERCLA involvement in cases where the Mill Site at issue is already being addressed under state authorities and where a non-liable party is committing substantial resources to improve the Mill Site under a state brownfield redevelopment program. Doing otherwise would strongly discourage precisely the type of investment in the redevelopment of brownfield property Kennecott has undertaken in this case. Kennecott's redevelopment of the Humboldt Mill will bring about lasting benefits to both the environment and the region. (A letter supporting the project from the Marquette County Board of Commissioners—provided as Attachment 3—is a good example of the broad community recognition of these benefits.)

It is therefore difficult to discern what policy is advanced by EPA's pursuing this Mill Site assessment. While EPA does have leeway to stray from the MOU and statutory provisions promoting brownfield redevelopment in cases where a site poses an imminent and substantial endangerment of human health or the environment, this is clearly not an issue at this Mill Site. In this connection, we understand that the sole reason for EPA initiating a preliminary assessment of the Mill Site is because the Keweenaw Bay Indian Community ("KBIC") requested that EPA do so in an August 26, 2009 letter from Tribal President Warren C. Swartz, Jr. to then Region 5 Administrator Bharat Mathur. However, KBIC is an ardent opponent of Kennecott's activities in the area, and an active litigant against the Kennecott Eagle Mine. Mr. Swartz's letter is clearly designed to advance that effort: the letter does not document any imminent or substantial endangerment to human health or the environment presented by existing conditions at the Mill Site or any other special concern that would warrant EPA involvement. To the contrary, the KBIC simply recounts the past history of the Mill Site and notes "concerns" about future planned activities at the Mill Site. The letter provides no factual basis to reasonably conclude that Mill Site presents the type of special circumstances that justify EPA involvement under the above-referenced policies and statutory provisions or expenditure of EPA resources. Nor does the mere submittal of a letter from a federally recognized tribe supersede application of these statutory and regulatory prohibitions.⁴

IV. Factual Inaccuracies in the PA Report Regarding Site Setting/Condition

It appears that EPA's contractor (Weston) completed the PA without entering the Humboldt Mill Site (or even asking such access) as would be the norm under U.S. EPA guidance. Review of Mill Site access records with Kennecott personnel indicates that no representative of Weston entered the Humboldt Mill property between February and December of 2010. This apparent omission in Weston's scope of PA work is manifest in a number of different locations in the PA. In addition, Weston's review of the Mill Site files maintained by the MDEQ appears to have been limited in scope since it omits important and recent developments at the Mill Site. These omissions and limitations result in the following:

⁴ Notwithstanding the legal infirmities undermining KBIC's request for an assessment, Kennecott always stands ready to discuss any concerns KBIC has about any aspect of the operation and make reasonable accommodation to KBIC to allay these concerns.

- The PA assesses an area of 1,242 acres, only a portion of which (roughly 350 acres) is currently owned and/or proposed to be used by Kennecott to accomplish beneficiation of nickel and copper ore and related activities. The boundary for the PA appears to be based on the extent of historical mining and related beneficiation and tailings management activities associated with the former Humboldt Mine. This was not, however, clearly indicated in the PA and the boundaries of such historical operations extend well beyond Kennecott's planned operations.
- The HTDF is referred to on two occasions (Section 2.2) as an "on-site lake". The HTDF is, however, a former open pit and underground mine that was allowed to fill with water and has historically been used for permitted subaqueous disposal of tailings derived from beneficiation of gold ore from the nearby Ropes mine. Kennecott's Part 632 permit calls for subaqueous disposal of tailings from Kennecott's planned beneficiation operations on the Humboldt Mill property to the HTDF (additional detail below).
- Section 2.3 of the PA indicates that the Mill Site is not "enrolled in the MDEQ Site Remediation Program." In fact, the facility was regulated under the MDEQ's leaking underground storage tank ("LUST") program, (Facility ID #00007803) and the MDEQ files clearly indicate that releases from the UST system will be addressed under Part 213 of the NREPA.
- Section 3, Past Environmental Investigations, does not reflect the fact that Kennecott filed a Baseline Environmental Assessment (BEA) with the MDEQ in March 2009 documenting pre-existing conditions on the Humboldt Mill Site.
- Section 4.1, paragraph 3 states that "Wastes generated by mining and beneficiation processes are classified as RCRA hazardous wastes." However, wastes from beneficiation processes are exempt from hazardous waste regulation pursuant to the Bevill exemption under RCRA [40 CFR Part 261.4(b)(7)].
- Section 5.1, paragraph 4 notes the presence of many metals in groundwater. Metals are ubiquitous in groundwater in this region due to natural bedrock hydrogeochemistry and the associated fact that the Mill Site lies in a historical mining district where mining has occurred for well over 100 years. The significance of the metals detections to an assessment of Mill Site risk must take into consideration both anthropogenic and natural background causes for the presence of metals in groundwater.
- The potential for exposure to contaminants in groundwater at the Mill Site appears to be significantly overstated in Section 5.1 of the PA. Horizon Environmental has developed an independent estimate of the quantity of private water supply wells in the radii prescribed in the PA based on publicly available data. Horizon's estimate suggests that the quantity of private water wells presented in the PA is overstated by approximately thirty percent. In addition, the number of potential receptors does not appear to take into consideration that groundwater flow in this area is generally limited to groundwater in the shallow, unconsolidated unit overlying bedrock and flow direction is dictated by the upper topographic surface of the bedrock. Migration of contaminants in groundwater in the deeper, bedrock units has not been observed at this Mill Site.
- Weston's assessment of surface water exposures in Section 5.2 appears to contain certain conjecture and information that is not directly relevant to the Humboldt Mill property. For example, Section 5.2.1 of the PA contains a lengthy discussion of acid drainage water and the potential ramifications of discharge of such acidic water to aquatic life and vegetation. However, the extensive baseline environmental assessment work completed by Kennecott in support of its mining permit application does not suggest that significant degradation of surface waters has occurred as a result of migration of contaminants from the Mill Site in surface water. Section 5.2.2 of the PA ("Groundwater to Surface Water Migration Pathway") references fish advisories in the Escanaba River at the Greenwood Reservoir because of selenium contamination. However, as documented elsewhere in the PA and documented in detail in Kennecott's mining permit application, selenium is not a contaminant of concern in groundwater at the Humboldt Mill Site.

- Section 5.3 of the PA document states that “No known barriers prevent or restrict Mill Site access.” However, Kennecott and others have fenced significant portions of the property. Kennecott has also posted Mill Site security personnel at the Humboldt Mill Site on a continuous basis. As a result, access to much of the Mill Site, including the mill buildings and the HTDF, is reliably restricted by Kennecott.
- Section 5.4 of the PA deals with potential exposures resulting from air emissions associated with mining operations in general. This section does not, however, appear to be specific to the Humboldt Mill Site. For example, Section 5.4 references potential exposures associated with air emissions from a mine pit or tailings disposal operations. However, no mine pit is proposed to be constructed on this Mill Site and tailings resulting from beneficiation operations are proposed to be disposed using subaqueous techniques, which should prevent air emissions.

Taken together, these inaccuracies and omissions tend to overestimate both the magnitude of contamination and exposure potentials present at the Mill Site.

V. Mill Site Inspection Concerns

Mill Site inspection activities included sampling of soil, groundwater, surface water, sediments, mining residuals, mill building construction and demolition waste. The investigation was conducted in November of 2011 by the U.S. EPA’s contractor, Oneida Total Integrated Enterprises (“OTIE”). OTIE’s Mill Site inspection activities on Kennecott’s property were overseen by Kennecott personnel and split samples were collected for analysis by AECOM, on behalf of Kennecott. During OTIE’s completion of the Mill Site investigation, AECOM and Kennecott observed numerous irregularities in OTIE’s sampling approach. Of particular concern were the following:

- OTIE personnel collected samples of pre-existing mining residuals that were temporarily stockpiled on the Mill Site as part of Kennecott’s environmental response activities being conducted pursuant to the CNTS. The material was stockpiled in preparation for disposal and is currently being removed from the mine site. The residuals should not be classified as environmental media and the samples collected from them should not be construed as representative of the current environmental conditions on the property.
- OTIE personnel also collected samples of fine ore that had been removed from existing fine ore bins. This material was stockpiled on plastic sheeting and covered with plastic sheeting, such that Kennecott’s construction personnel were asked to temporarily remove a portion of the sheeting to provide OTIE access. Again, this material should not be classified as environmental media and the samples collected from the covered stockpiles should not be construed as representative of current environmental conditions on the property.
- With one exception, OTIE’s techniques for sampling of groundwater from monitoring wells did not employ low-flow, minimal drawdown techniques. In some cases, monitoring wells were pumped dry using high flow sampling pumps and then allowed to recharge prior to collection of groundwater samples. As a result of this sampling technique, groundwater samples are expected to have significant turbidity, which is expected to result in overstatement of metals concentrations in groundwater samples.
- Similarly, during collection of surface water samples OTIE personnel were observed to disturb underlying sediments, likely increasing the turbidity of the surface water samples. As a result of this sampling technique, concentrations of metals in surface water samples collected by OTIE are expected to be overstated.
- Decontamination and sample preservation techniques employed by OTIE personnel were inconsistent and not fully compliant with accepted industry standards. For example, when collecting composite soil samples, sampling tools were periodically placed on the unprotected


ground surface and then reused in the sampling process. Soil and groundwater samples were not observed to be cooled upon collection. These sampling techniques are expected to reduce the accuracy and repeatability of the sampling conducted by OTIE.

These comments represent preliminary observations regarding sampling methods observed in the field during the SI conducted by OTIE. Kennecott requests that a copy of the final SI Report be provided upon completion and reserves the right to provide additional detailed commentary following review of the document.

VI. Conclusions

For those reasons, Kennecott believes no further action to be necessary having regard to EPA's MOU with the State of Michigan, CERCLA itself, and CERCLA policy encouraging brownfield redevelopment. Kennecott is committed to meeting and exceeding all aspects of its agreement with the State of Michigan, and delivering a net benefit to the environment as a result of its activities at the Mill Site.

Sincerely,



Kristen A. Mariuzza, P.E.
Environmental & Permitting Manager
Kennecott Eagle Minerals

Cc: Ms. Nuria Muniz, EPA, Region 5 (electronic)